ETH zürich

Does climate change influence the frequency of large rock slope failures?

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EARTH SCIENCES

EGU 2020-7361

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Is all of this true?

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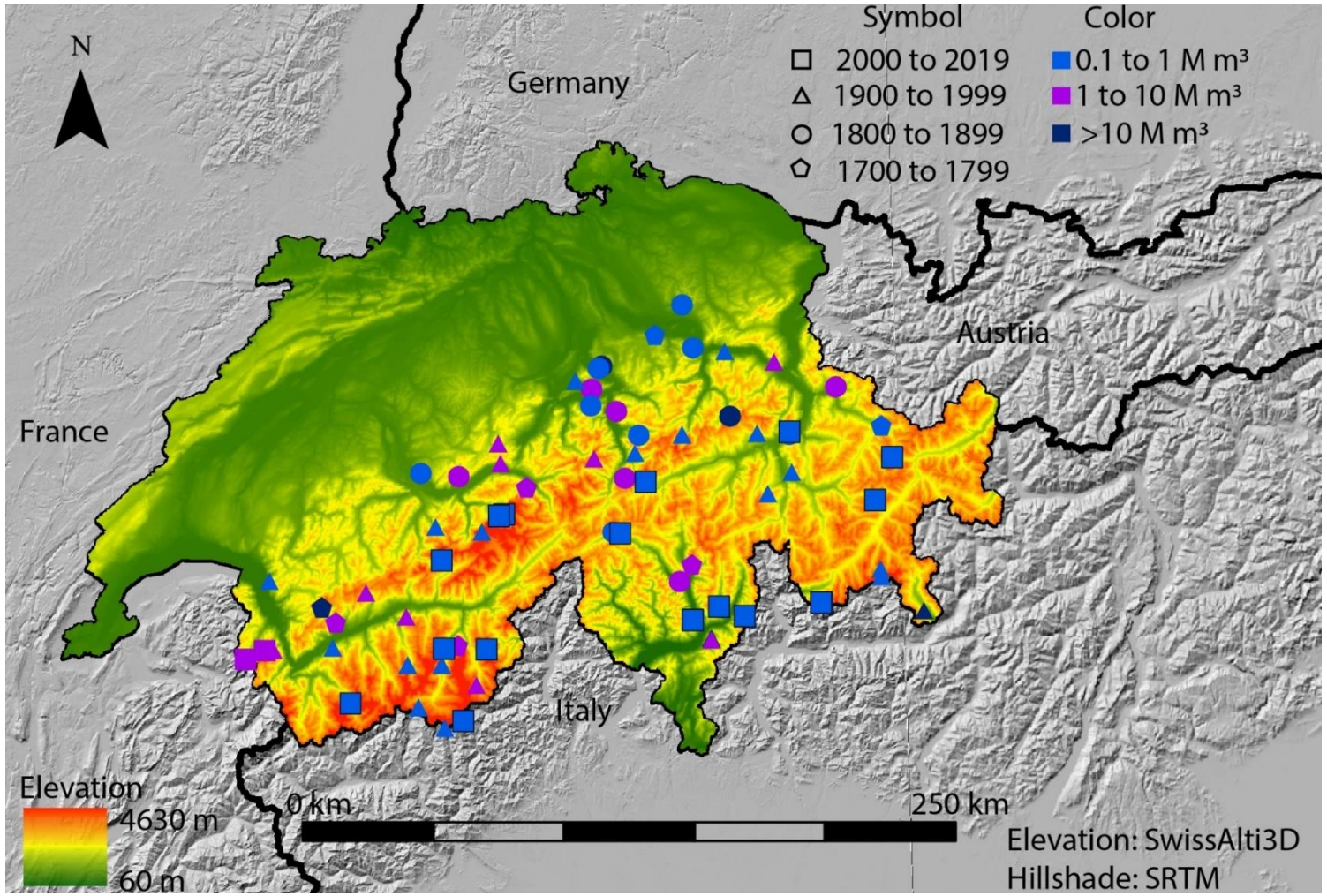
First Complete Catalog of Large Catastrophic Rock Slope Failures (> 100’000 m³) since 1700 from Swiss Alps



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Rock Slope Failures since 1700 by Volume Class

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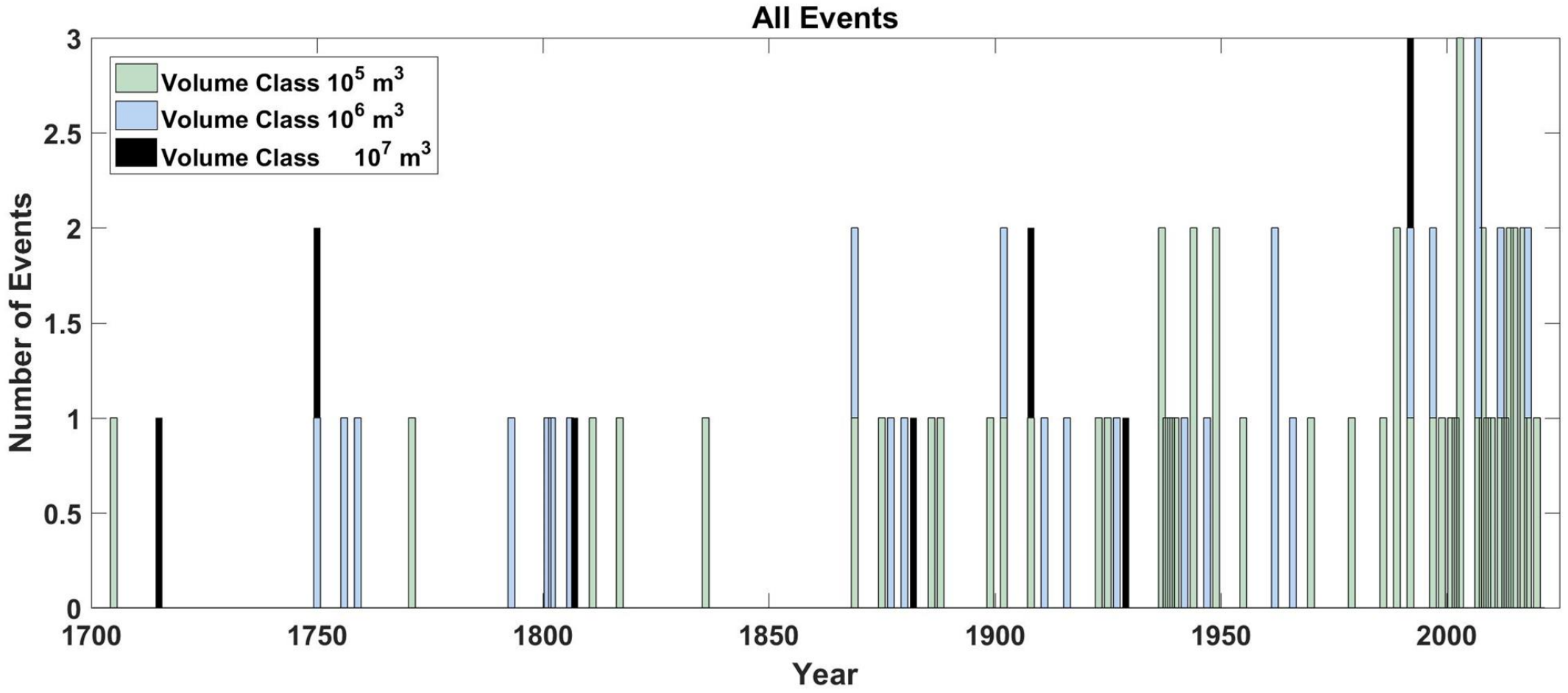

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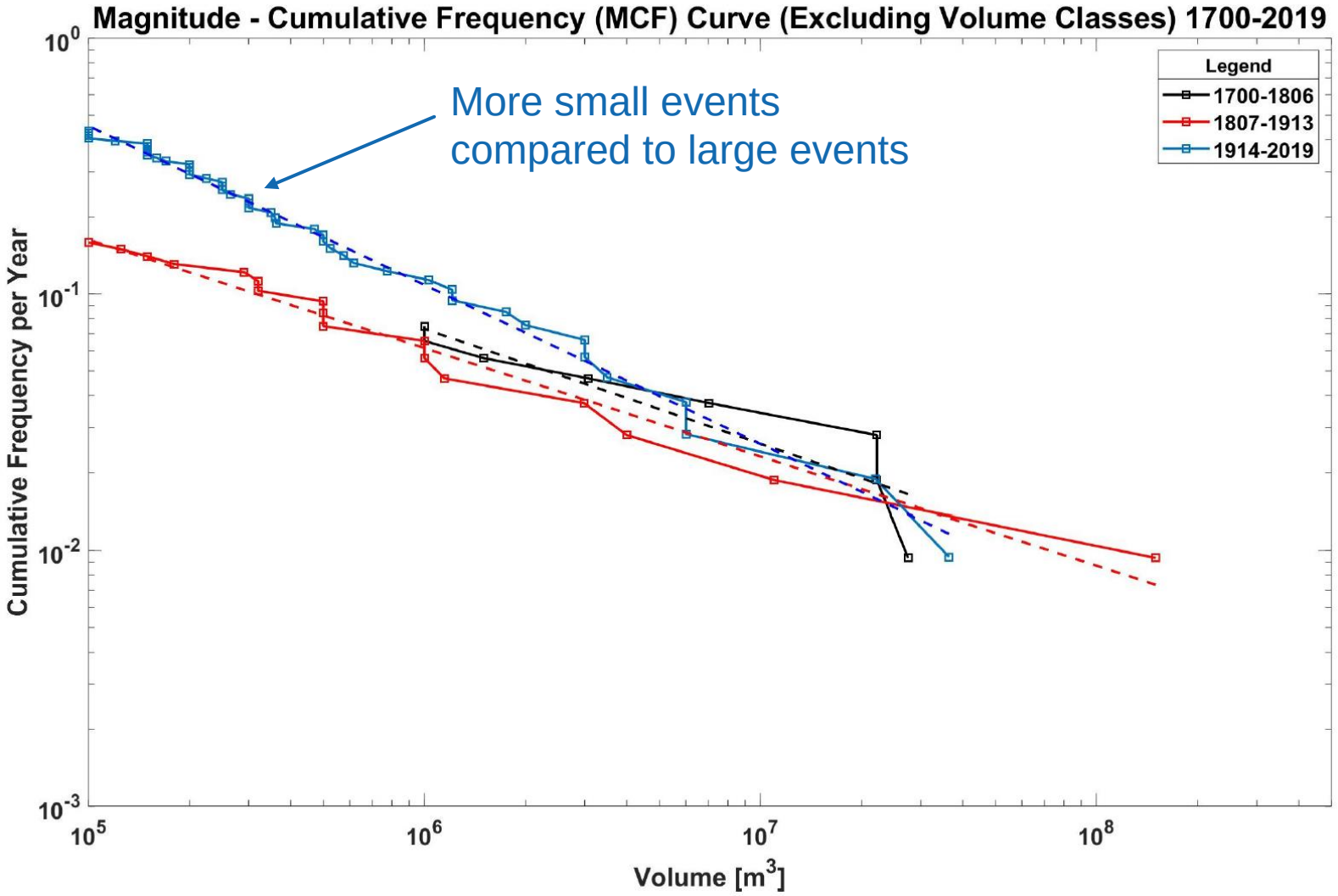
Cumulative Magnitude-Frequency Relationships: Confirm Completeness of Event Sampling in all 3 Sampling Periods



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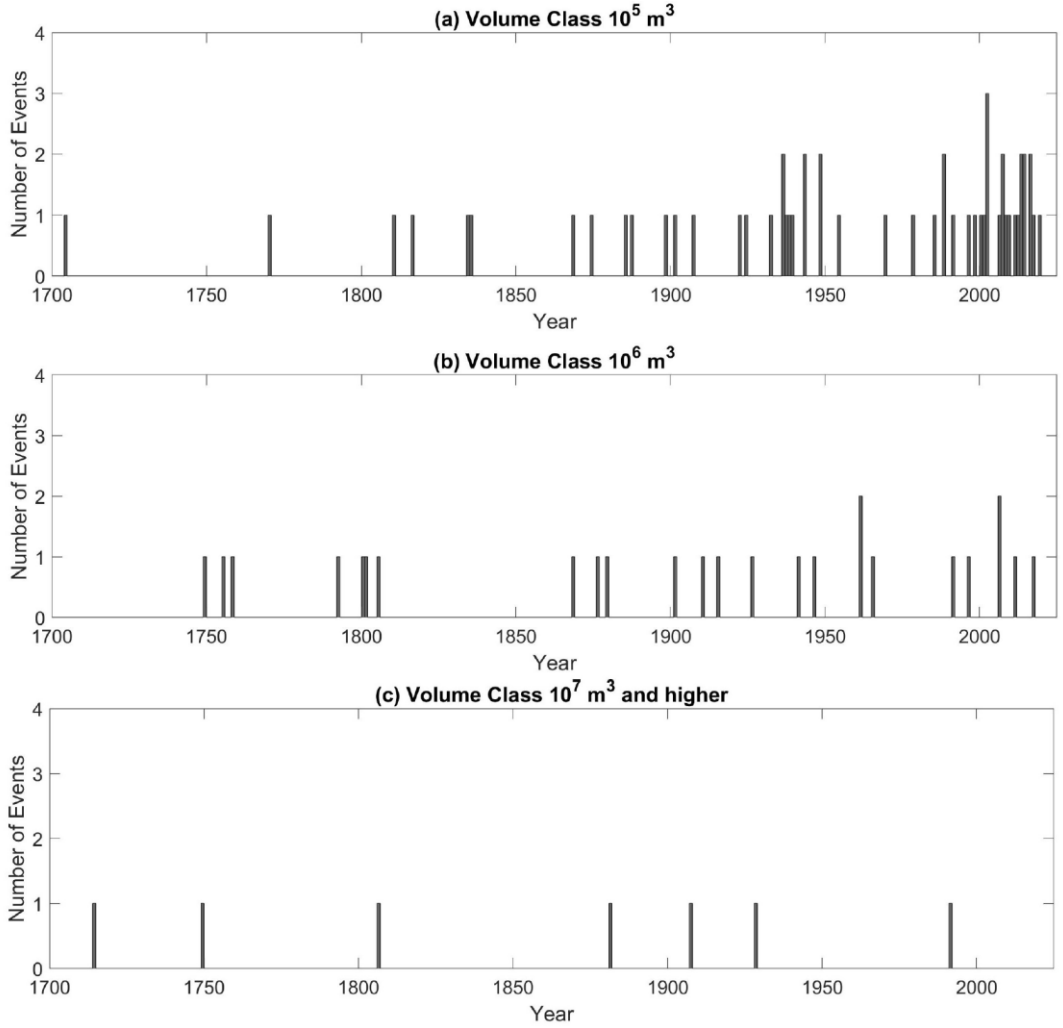
Frequency of Slope Failures in Relationship to Time and Volume: Only Volume Class 10^5 m^3 increases in Frequency since 1940



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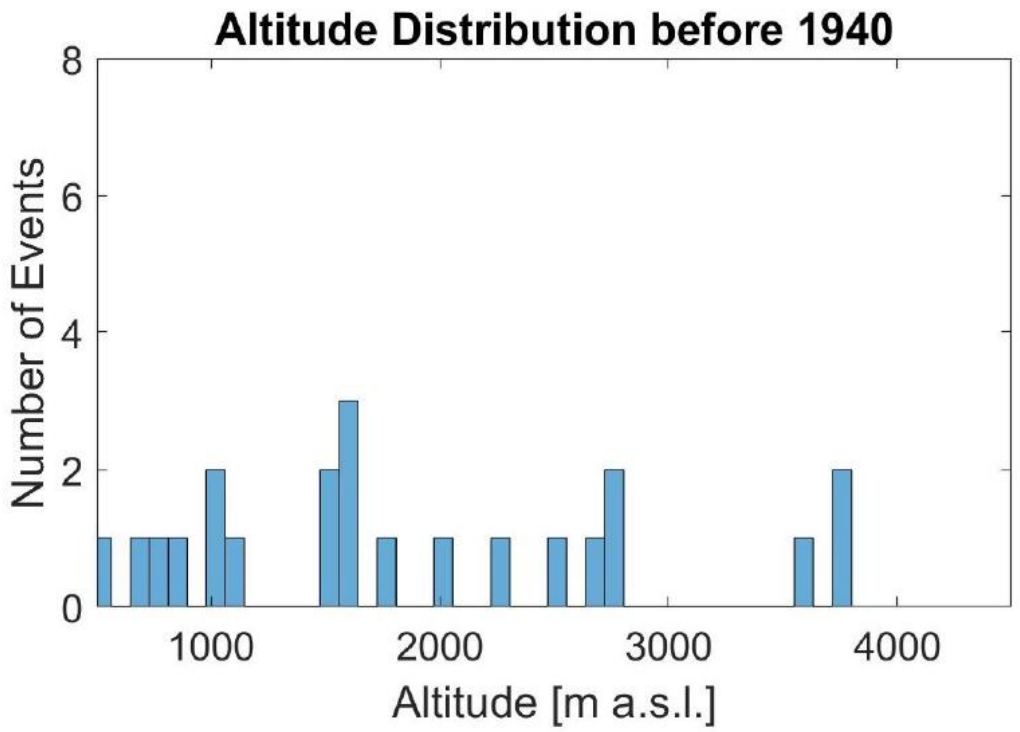
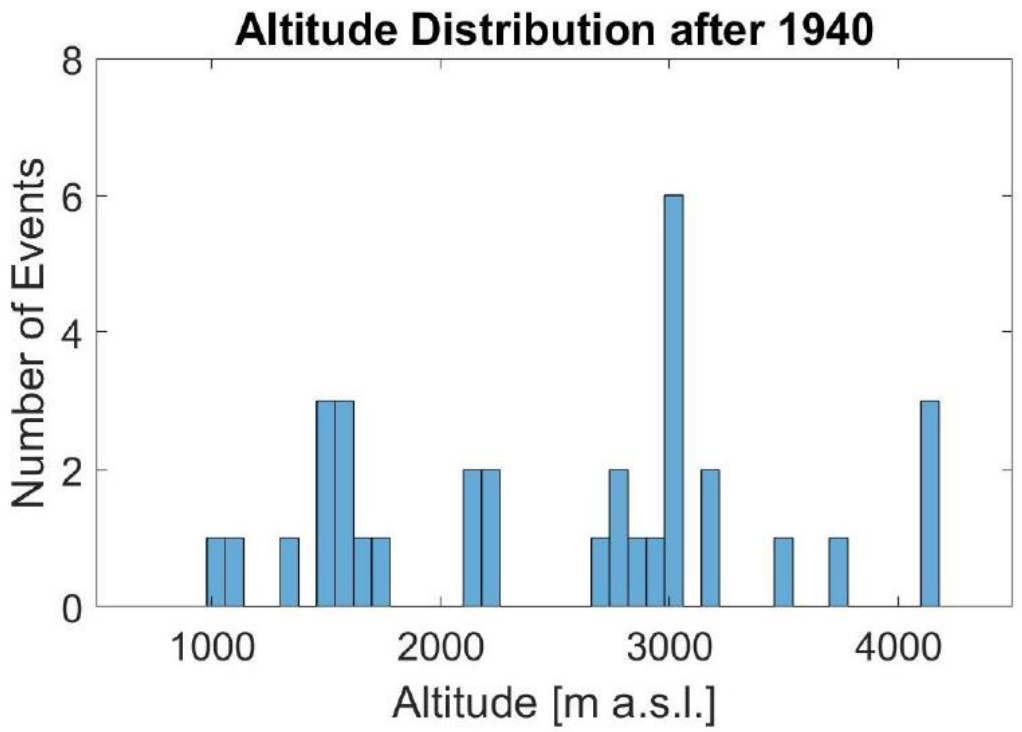
Increase in Event Altitude of 10^5 m^3 Volume Class since 1940: Is Permafrost Melting the Trigger of these Slope Failures?





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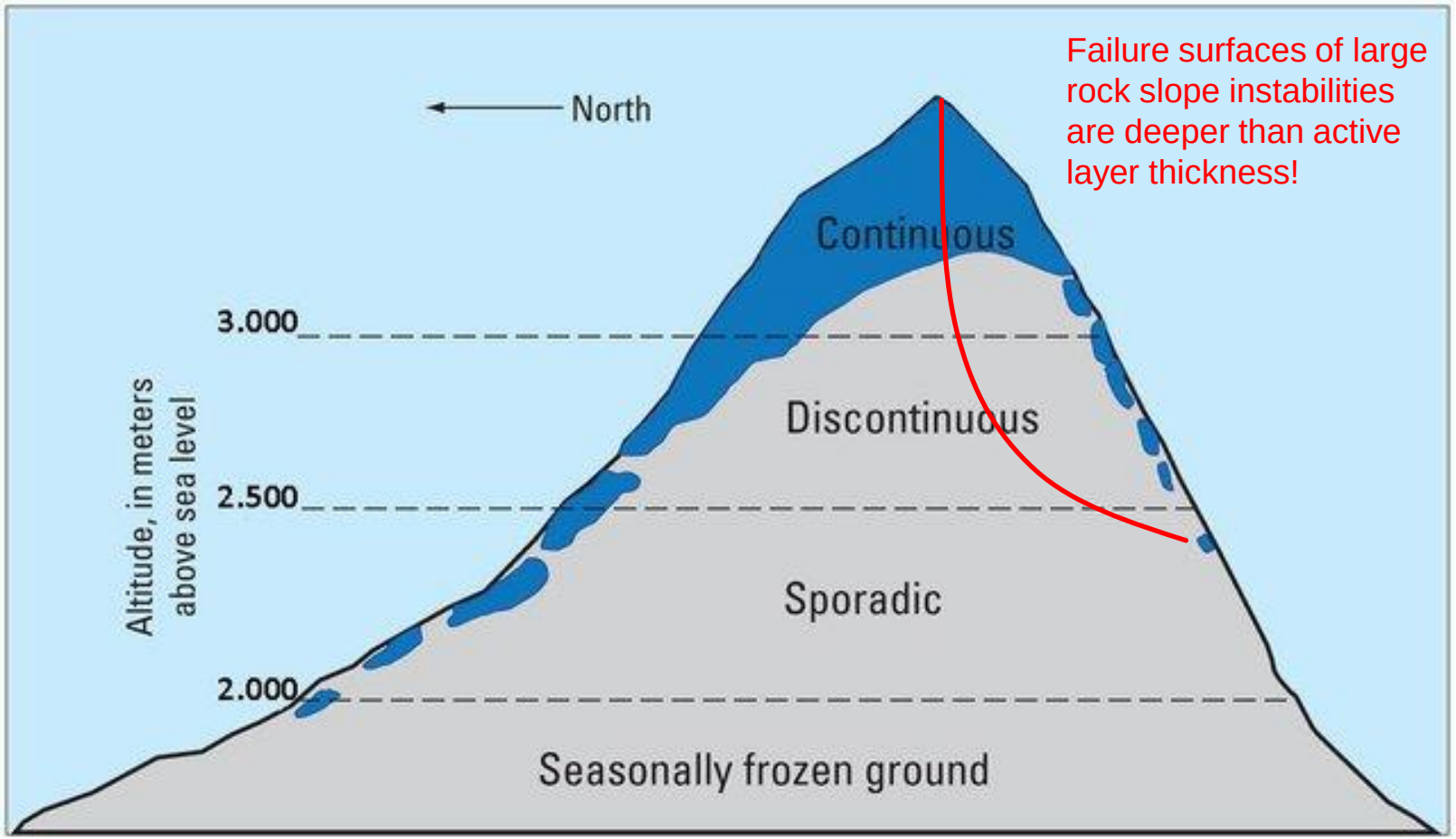
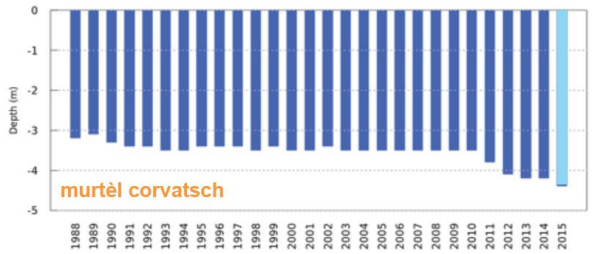
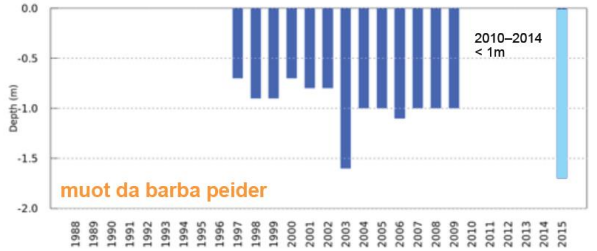
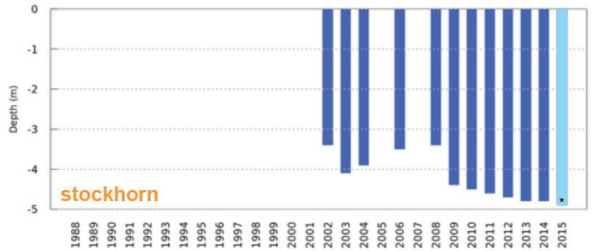
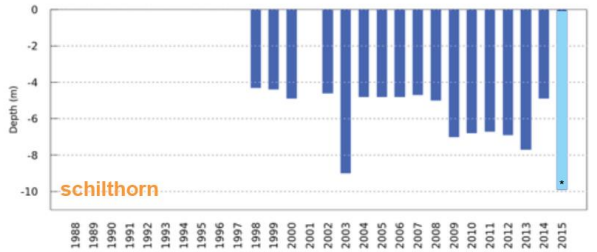
Depth of Large Rock Slope Failures in Relationship to (small) Permafrost Active Layer Thickness Evolution











Schrott et al. 2012, Nötzli et al. 2015